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ABSTRACT

The Industrialized Needs study identified the perceptions of Malaysian educators and employers regarding the role of vocational and technical education (VTE) in the economic development of Malaysia. The first survey used a random sample of 300 (276 responses) from the population of 4,316 VTE educators in public VT schools and polytechnics in Peninsular Malaysia. The second population was employers from large and medium-size manufacturing companies in Klang Valley and Selangor, 120 of whom became the sample of employers (53 responses). Based on the findings of the study, several conclusions were drawn: (1) both educators and employers believed VTE and training have assumed a major role in the economic development of Malaysia and that a substantial financial investment in VTE and training was justified; (2) both groups were less certain regarding the employability skills of VT graduates; (3) educators and employers differed with regard to which factors helped or inhibited the restructuring of VTE, but both groups agreed that input from the private sector and technical exchanges between vocational institutions and business/industry were mutually beneficial; (4) they believed the public sector did an inadequate job in satisfying the human resource needs of the industrial sector; (5) both groups were unclear regarding factors that led to shortages of skilled workers; and (6) educators and employers differed regarding the government's role in satisfying the needs of VTE and the needs of business and industry. Ten recommendations for policy, practice, and future research are offered. (Contains 12 references.) (YLB)

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THE ROLE OF VOCATIONAL AND TECHNICAL EDUCATION IN THE INDUSTRIALIZATION OF MALAYSIA

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ABSTRACT

The Role of Vocational and Technical Education in the Industrialization of Malaysia

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The purpose of the study was to identify the perceptions of Malaysian educators and employers regarding the role of vocational and technical education in the industrialization of Malaysia. *The Industrialization Needs Survey* was developed to identify those perceptions. Several conclusions were drawn from the findings of the study: (a) both educators and employers believed that vocational and technical education and training has assumed a major role in the economic development of Malaysia and that a substantial financial investment in vocational and technical education and training was justified, (b) employers and educators were less certain regarding the employability skills of vocational and technical graduates, (c) educators and employers differed with regard to the factors that facilitated or inhibited the restructuring of vocational and technical education; however, both groups agreed that input from the private sector and technical exchanges between vocational institutions and business/industry were mutually beneficial, (d) educators and employers believed that the public sector did an inadequate job in satisfying the human resource needs of the industrial sector, (e) both groups were unclear regarding the factors that led to shortages of skilled workers, and (f) educators and employers differed regarding the government's role in satisfying the needs of vocational and technical education and the needs of business and industry.

The Role of Vocational and Technical Education in the Industrialization of Malaysia

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Introduction

Technical and vocational education in Malaysia is emerging as an area of crucial importance for economic and social development (Abdullah, 1996). The Seventh Malaysia Plan (1996 - 2000) has placed human resource development as a major emphasis and a strategic policy to enhance Malaysia's competitive edge over other developing countries (Economic Planning Unit, 1996). Even though the recent economic crisis in the Asian region has slowed the developmental process, the role vocational and technical education in the economic development of Malaysia has never been more critical. Rapid technological changes and increased global competition have exacerbated the challenges associated with educational delivery and professional development. However, empirical research regarding the role of vocational and technical education in the industrialization of Malaysia was minimal. Further, the perspectives of vocational and technical educators and employers appear frequently not considered in the making of Malaysian educational policies.

Industrial Development of Malaysia

Jomo (1994) divided the industrial development of Malaysia into five phases. The first phase - during British colonial rule (1867 - 1957) - was largely limited to the export of raw agriculture products and minerals, mainly,

rubber and tin; and the processing and packaging of food and simple consumer items. The plantations, mining, and the small-scale business activities were dominated by the British and, to a lesser extent, local Chinese businessmen (Allen & Donnithorne, 1954; Puthucheary, 1960; Wheelwright, 1965).

The second phase (1957 - 1969) began after the independence in 1957 when the new government favored import-substitution industrialization with little state intervention. Government involvement was only limited to the provision of tariff protection, infrastructure, tax exemptions, and other incentives. This strategy sought to encourage foreign investors to set up production, assembly, and packaging plants in the country to supply finished goods previously imported. The investment was still dominated by the British and usually poorly linked to the national economy. Therefore, such industrialization did not significantly affect new employment and soon reached its limits in the small domestic market.

The third phase (1970 - 1981) experienced a shift from import-substitution industrialization to export-oriented industrialization as the limits of import substitution became apparent and a new international division of labor emerged, particularly involving manufacturing. This transition was coincided with the introduction of the 20-year New Economic Policy (NEP). It began in 1970 and intended to create "national unity" through massive state intervention in terms of economic redistribution programs to achieve its objectives of "poverty eradication" and "the restructuring of society." The NEP's Outline Perspective Plan (OPP) envisaged the incidence of poverty declining from 49 percent in Peninsular Malaysia in 1970 to 16 percent in 1990. "Restructuring society" basically referred to affirmative action to achieve interethnic parity in occupations and corporate wealth ownership, and sought to eliminate the identification of race with economic function. Similarly, in education, admission to public higher learning institutions was based on ethnic quotas (Pong, 1993)

The NEP also expected to raise the *Bumiputra* share of corporate equity from 2.4 percent in 1970 to 30.0 percent in 1990. Although this target was not achieved, significant progress was made. *Bumiputra* holdings rose from 2.4 percent in 1970 to 20.3 percent in 1990 (Crouch, 1996). Development policy in the 1970s, after the declaration of the NEP, led a partial abandonment of *laissez faire* policies in favor of greater state intervention in resource allocation and public sector ownership and control of business enterprises (Jomo, Chung, Folk, Ul-Haque, Phongpaichit, Simatupang, & Tateishi, 1997). In the mid-1970s, petroleum production off the east coast of peninsular Malaysia began as the world oil prices soared beginning with the 1973 "oil crisis." Then, it was followed by natural gas production in the early 1980s offering yet another source of export and foreign exchange earnings to enhance the Malaysian economy.

Economic and trade policy reforms led the way for accelerated industrialization involving electronic components, electrical goods, textiles, and other manufactured exports. Although poorly linked to the national economy, the new labor-intensive industries generated new employment, but at generally lower wage levels. However, as unemployment declined and productivity rose, wage levels also increased, at least until the early 1980s.

The fourth phase (1981 - 1987) was less distinct because the government did not totally abandon export-oriented industrialization, however, initiated the heavy industries, which some believed to be part of a second stage of import substitution (Lim, 1994). During this period, several new economic reforms were introduced such as Malaysia Incorporated, privatization, and Look East Policy; all these reforms were aimed at liberalizing the economy, downsizing the public sector, and allowing the private sector to play a major role as the engine of growth (Abul Hassan, 1994). Nevertheless, rapid growth and industrialization had not made the Malaysian economy less dependent on the world economy. The global economic

crisis of this period and its ramifications for Malaysia; for example, through the electronics industry product cycles and the downfall of the prices of Malaysia's major commodity exports, had a strident impact on the national economy as a whole (Crouch, 1996; Jomo, Chung, Folk, Ul-Haque, Phongpaichit, Simatupang, & Tateishi, 1997). Meanwhile, new private investments in manufacturing decreased and resulted in compounding problems related to fiscal and debt crises, slow growth, and rising unemployment culminating in the mid-1980s. Therefore, the early and mid-1980s experienced a severe downturn in the Malaysian manufacturing sector.

The fifth phase (1987 - 1995) of industrialization experienced a dramatic recovery in the Malaysian manufacturing sector. The government responded by adopting relatively liberal policies in 1986. At the same time, the Ringgit was allowed to depreciate sharply. Within a short time, foreign investment, especially from East Asian countries, was occurring as a result of the Look East Policy; and the prices of Malaysia's exports had begun to recover. By 1988, the economy was expanding rapidly, and by 1995, Malaysia had experienced eight successive years of annual growth of more than 8 percent (Crouch, 1996). Per capita income also increased significantly from US$ 978 in 1970 to US$ 9,470 in 1995 (Economic Planning Unit, 1996). A robust economy has led the government to venture into more ambitious projects such as The World's Tallest - Petronas Twin Towers and the Multi-media Super Corridor (MSC). However, there has been a mismatch between the country's leap into the high-tech capital intensive economy and the shortage of high-tech skilled workers to complement it (Davies, 1997). In summary, the economic recovery during this period has been mainly led by foreign investment; therefore, it will be difficult to sustain indefinitely and is quite vulnerable (Jomo, Chung, Folk, Ul-Haque, Phongpaichit, Simatupang, & Tateishi, 1997).

Purpose of the Study

The purpose of this study was to identify the perceptions of educators and employers regarding the role of vocational and technical education in the economic development of Malaysia. Specifically, the research questions were:

1. To what extent does vocational and technical education and training contribute to the economic development of Malaysia?
2. What are the perceptions of educators and employers regarding the employability of graduates of vocational and technical programs?
3. What are the factors that facilitate or inhibit the restructuring of vocational and technical education and training in serving the needs of Malaysia's industrialization?
4. What are the perceptions of educators and employers regarding the effectiveness of the government's policy and practice of producing skilled workers as needed by the industrial sector?
5. What are the factors that contribute to the shortage of skilled workers?
6. To what extent do educators and employers believe that government is responsive to the needs of vocational and technical education and training programs?
7. To what extent do educators and employers believe that government is responsive to the needs of business and industry?
8. What are the suggestions and recommendations of educators and employers for improving vocational and technical education and training programs?

Methodology

There were two target populations in this study. The first population was all vocational and technical educators (N=4,316) in public vocational and technical schools and polytechnics in Peninsular Malaysia. A random sample of 300 educators was selected. The second population was employers from large and medium-size manufacturing companies in Klang Valley and Selangor. The sample consisted of 120 employers. *The Industrialization Needs Survey* was developed to identify the perceptions of educators and employers regarding the industrialization of Malaysia. The internal consistency reliability of the instrument was estimated to be Cronbach's Coefficient $\alpha = 0.94$. A total of 276 educator instruments and 53 employer instruments were returned which yielded final response rates of 92 % and 44 %, respectively.

Results

Based on the findings of the study, several conclusions can be drawn. Educators and employers believe that vocational and technical education has assumed a major role in the economic development of Malaysia. In addition, both groups also believe that a substantial financial investment in vocational and technical education and training was justified. However, employers and educators are less certain regarding the adequacy of the employability skills of vocational and technical graduates. Employability skills include social, interpersonal, communication, thinking, and problem-solving skills.

Public vocational and technical institutions may achieve greater efficiency if they are privatized. Further, the government is less efficient in providing a clear vision and mission of vocational and technical education. Similarly, the public policy regarding partnerships between vocational and technical institutions and

business/industry is vaguely articulated and implemented. Even though the structure of vocational and technical education and training has become more flexible in responding to the changing labor market, vocational and technical curriculum is not necessarily based on the needs of the labor market.

Educators believe that the government is focusing on long-term solutions for satisfying human resource needs. However, employers perceive the government was neither proactive in managing nor efficient in seeking input from business and industry on matters relating to human resource needs.

Both educators and employers seem unsure regarding the factors that led to shortages of skilled workers in Malaysia. They are unconvinced that vocational and technical graduates are more interested in obtaining white-collar rather than blue-collar jobs. Nevertheless, parents prefer white-collar jobs to blue-collar jobs for their children. Yet, both educators and employers disclaim that communities have negative perceptions of vocational and technical graduates. Further, it is uncertain whether the rapid expansion of industries causes the shortages of skilled workers.

Educators and employers believe that government is responsive to the needs of vocational and technical education and training. However, they are uncertain regarding the provision of adequate facilities and resources for vocational and technical programs. Nevertheless, both groups perceive that input from public and private sector advisory committees and technical exchanges between personnel from vocational and technical institutions and business/industry are mutually beneficial. However, the private sector perceives that government is less committed to maintaining high quality standards of vocational and technical education and training programs.

In general, educators and employers believe that the government is receptive to the needs of business and industry. However, they are less certain with respect to technological indigenization and the participation of local entrepreneurs in the

domestic economy. In addition, employers are ambivalent regarding the success of incentives for business/industry, support for R & D, foreign investment, technology transfer, and assistance for local entrepreneurs. Further, employers do not believe that the participation of local entrepreneurs in the global economy was successful. Educators perceive that Malaysia will achieve the status of an industrialized nation by 2020, however, employers are skeptical.

Regarding the essential elements needed for the improvement of vocational and technical education, educators stress that professional development, provision of up-to-date equipment, and provision of adequate funding are necessary. Employers, however, perceive input from business/industry, relevant curriculum reflecting industrial needs, and establishment of quality standards as the most important factors in planning the improvement of vocational and technical education and training.

Educators view financial constraint, inexperienced teachers, and inadequate facilities as the three major barriers to the improvement of vocational and technical education and training systems in Malaysia. Employers, however, perceive bureaucratic inefficiencies as the most important factor that inhibits the improvement of vocational education and training. Employers believe inexperienced teaching staffs and out-dated equipment are, indeed, the barriers.

Educators and employers insist that technical skills are the most important skills that vocational and technical graduates should acquire. Communication skills are also essential. However, educators and employers differ regarding other important skills. Critical thinking and problem-solving skills are perceived by educators as important skills. Employers, however, believe that interpersonal skills are critical for vocational and technical graduates to possess.

Regarding additional issues related to vocational and technical education in Malaysia, educators claim that bias against vocational and technical educators; inconsistent policies with respect to the status of vocational schools; and less than satisfactory human resource development as their major concerns. Employers, however, are more concerned that vocational and technical systems were not producing entrepreneurs and business/industry leaders. Employers desire the government, especially the Ministry of Education, to communicate the vision and goals of vocational and technical education. Finally, the private sector is willing to participate in partnerships with vocational and technical education if the Ministry is willing to create appropriate incentives.

Recommendations

Based on the results and limitations of this study, several recommendations for policy, practice, and future research are offered:

1. The government and private sector should maintain and expand vocational and technical education and training in Malaysia. In particular, the government should utilize the large potential of employers and private sector involvement in the investment of vocational and technical education and training.
2. Federal, state, and local agencies should provide a clear vision and mission for vocational and technical education and training. In addition, the government should provide effective leadership and incentives to the private sector by assisting to create partnerships and collaboration with vocational and technical institutions.

3. The government, especially the Ministry of Education, should seek input from numerous stakeholders, such as, educators, business/industry personnel, parents, students, academicians, and other professionals before formulating major policy decisions regarding vocational and technical education and training.

4. A balanced approach should be emphasized in school curriculum through the integration of technical, employability, and generalizable skills curriculum in vocational and technical programs. In addition, vocational and technical curriculum should be flexible and responsive to the present and future needs of the nation.

5. The government should reduce bureaucracy and increase the efficiency and effectiveness of vocational and technical education. Further, the Ministry of Education should consider decentralizing the management of public vocational and technical institutions and encourage the expansion of private and community-supported vocational and technical schools and training.

6. The government and its agencies should be more proactive rather than reactive in responding to and managing human resource needs. This can be accomplished by eliciting input from business and industry and creating meaningful partnerships with the private sector.

7. Vocational and technical educators must have additional professional development opportunities. Professional development may include inservice education, networking, industrial attachment, and knowledge and skills upgrading.
8. Federal, state, and local authorities should address the issue of dissatisfaction among vocational and technical educators. Disincentives include, however, are not necessarily limited to low salary, few opportunities for promotion, and lack of recognition.
9. Public and private sector leadership should become aware of the importance of research and development to sustain Malaysia's competitive edge. Therefore, collaborative and systematic research and development should be initiated by the public and private universities and research institutions.
10. Policy makers should introduce legislation related to new reform initiatives such as school/business partnerships, school-to-work activities, technology preparation, and work force development to sustain employer and private sector commitment to education, training, and human resource development.

References

Abdullah, S. (1996, September). The planning and implementation of Tech-Prep curriculum in Malaysia. Paper presented at National Tech Prep Network Conference, San Antonio, TX.

Abul Hassan, A. (1995). Privatization - A Malaysian success. In G. K. Poh, T. K. Woon, & A. Mathe (Eds.), Malaysia Incorporated. Kuala Lumpur, Malaysia: Limkokwing Integrated Sdn. Bhd.

Allen, G.C. & Donnithorne, A.G. (1954). Western enterprise in Indonesia and Malaya. London: Allen and Unwin.

Crouch, H. (1996). Government and society in Malaysia. Ithaca, NY: Cornell University Press.

Davies, J. (1997). Malaysia: Towering rate of growth. Asian Business, 33(4), 30-36.

Economic Planning Unit. (1996). Seventh Malaysia Plan (1996 - 2000). Kuala Lumpur, Malaysia: Percetakan Nasional Malaysia Berhad.

Jomo, K.S. (1994). Manufacturing growth and employment. In K.S. Jomo (Eds.), Malaysia's economy in the nineties. Selangor, Malaysia: Pelanduk Publications.

Jomo, K.S., Chung, C.Y., Folk, B.C., Ul-Haque, I., Phongpaichit, P., Simatupang, B., & Tateishi, M. (1997). Southeast Asia's misunderstood miracle. Boulder, CO: Westview Press.

Lim, C.P. (1994). Heavy Industrialization: A second round of import substitution. In K.S. Jomo (Eds.), Japan and Malaysia development: In the shadow of the rising sun. London: Routledge.

Pong, S.L. (1993). Preferential policies and secondary school attainment in Peninsular Malaysia. Sociology of Education, 66(4), 245-261.

Puthucheary, J. (1960). Ownership and control in Malayan economy. Singapore: Eastern Universities Press.

Wheelwright, E.L. (1965). Industrialisation in Malaysia. Melbourne: Melbourne University Press.